

DESCRIPTIONS OF SOME CHINESE LAND-SHELLS.

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Pl. VIII. Figs. 4 and 8, Pl. IX. Figs. 2, 7, and 8.

CLAUSILIA, Drap.

Sub-sectio *EUPHÆDUSA*, Bttg.1. *CLAUSILIA CROBYLODES*, Schm. and Bttg.

Schmacker and Boettger, Nachr. Bl. d. d. Mal. Ges. 1890, p. 30.

As we have pointed out (*l.c.*), *C. cylindrella*, Heude,¹ from Talifu, in the province of Yünnan, is the nearest ally to our species. On examination of a typical specimen, we find that in Heude's species the second whorl is higher than it is wide, and considerably higher than the third whorl; the aperture is less oblique than in our species. The lamella inferior extends horizontally so far to the left, that a line drawn from the lamella superior vertically downwards would just touch it, while in *C. crobylodes* it would pass by without touching it.

The specimen has $11\frac{1}{2}$ whorls, and measures 15×2.75 mm.; it is therefore less slender than the dimensions given by Heude (18×2.5 mm.) would lead one to suppose.

2. *CLAUSILIA CROBYLODES*, Schm. and Bttg., var. *MEDIOGLABRA*, n. var.

Differt a typo (*cf. Schmacker and Boettger*, Nachr. Bl. d. d. Mal. Ges. 1890, p. 30) testa majore, anfractibus 11 magis planatis, ad suturam minus convexis, penultimo minus distincte striato, striis subobsoletis vel obsoletis, peristomate magis expanso, distinctius sublabiato; lamellis inter se magis approximatis. Alt. 16.5-17.5 mm.; diam. max. 3.5-3.75 mm.; long. apert. 3, lat. apert. 2.5 mm.

Hab.—Near Ichang, province of Hupeh.

3. *CLAUSILIA BUCCINELLA*, Heude.

Heude, Journ. de Conch. 1886, p. 300; Moll. terr., p. 160, t. xxxv. fig. 10.

This species, of which we have before us an authenticated specimen, differs from *C. crobylodes*, Schm. and Bttg., in having only 9 whorls, which are twice as distantly costulated; the penultimate one is more distantly and more strongly costulated than the others. The aperture is more solute, is vertical, and ovoid, whilst in *C. crobylodes* the aperture is oblique and pear-shaped. The lamella superior is stronger and much longer than in *C. crobylodes*, whilst the lamella inferior runs out on the interlamellar space in two very small plaits.

¹ Journ. de Conch. 1886, p. 301; Moll. terr., page 159, t. xxxv. fig. 11.

The dimensions given by Heude—long. 25, diam. max. 2 mm.—cannot possibly be correct; the specimen received from him measures long. 14, diam. max. 3 mm.

4. *CLAUSILIA MICROTHYRA*, n.sp. Pl. VIII. Fig. 4.

Testa parva, clavato-fusiformis, gracilis, solida, sericina, corneo-brunnea; spira fere exacte turrata; apex acutus, corneus. Anfr. $10\frac{1}{2}$ convexiusculi sutura impressa submarginata disjuncti, regulariter fere costulato-striati; ultimus duplo distantius costulatus, basi leviter rotundatus. Apert. obliqua, parva, faucibus brunneis, regulariter piriformis; peristoma continuum solutum, expansum, reflexum, crassissime albo-labiatum, dente sub sinulo circulari distinctissimo. Lamellæ crassæ sed parum altæ, valde approximatae, intus convergentes et fere contiguae, superior marginalis, subverticalis, eum spirali continua, inferior profunda alte sita, subtransversa, parum conspicua; subcolumellaris immersa. Plica principalis longissima, intus lineam lateralem transgrediens, extus in margine terminata. Lunella lateralis, eum palatali supera longa arcum semicircularem exhibens. Alt. 12·5–13 mm.; diam. med. 2·75 mm.; alt. apert. 2·5, lat. apert. 2 mm.

Hab.—Lytschouanhien, province of Hupeh, received from Father L. Fuchs, two specimens.

Differs from *C. spinula*, Heude, in the apex being more slender and more finely pointed, in the aperture being smaller, more rounded, and having an exceptionally thick margin. The lamella superior and the lamella inferior approach each other more closely. Differs from *C. clavulus*, Heude, in being altogether more slender; the plica principalis is shorter inside, and the lamella superior and inferior come closer together.

5. *CLAUSILIA CLAVULUS*, Heude.

Heude, Journ. de Conch. 1886, p. 301; Moll. terr. 1890, p. 160, t. xxxv. fig. 9.

We have before us an authenticated specimen from Père Heude of $10\frac{1}{2}$ whorls and alt. 14·75, diam. med. 3·5 mm. As the species is very similar to *C. spinula*, Heude, it may not be out of place to give a short sketch of the principal differences.

“Differt a *C. spinula*, Heude, testa majore, solidiore, anfr. $10\frac{1}{2}$ –12 (nec 10–11) distinctius costulato-striatis, peristomate calloso-labiato, labio crassiore convexo, plica principali intus distincte longiore, introrsum usque trans regionem lamellæ superioris protracta.”

In the other plaits, in the lamellæ, in the position of the clausilium, in the colour and the light zone running along the suture, and in the sculpture, there is no essential difference.

Var. *polytropia*, n. var.

Differt a typo testa minore, ventricosiore, plumbea, suturis clarius marginatis, anfr. 9–10 densius striatis, ultimo duplo densius striato, apert. piriformi-rotundata, alba, crassius labiata, dente sub sinulo posito minus acuto. Alt. 11·25–13·5 mm.; lat. 3–3·25 mm.; alt. apert. 3, lat. apert. 2·25 mm.

As in *C. clavulus*, type, the plica principalis goes beyond the lamella superior and beyond the sinulus. The margin is more strongly developed than in the type.

Some few specimens were received from Father L. Fuchs, which were probably found at Lytschouanhien, province of Hupeh.

Var. *orthoceras*, n. var.

Differt a typo, anfr. 11-12, ultimo duplo densius striato, lamella superiore inferiori intus magis approximata.

Frequent at Changyang, province of Hupeh, up to 12 whorls.

Alt.	12.5,	diam. med.	3 mm.
,,	13.6,	,,	2.8 ,,
,,	19.0,	,,	3.5 ,,

That a species originally described from Yünnan should be found in Hupeh appears extraordinary. The fact may perhaps be explained by assuming that Heude's species was not found at Talifu, but a few miles north or east of that city, where the locality would be within the watershed of the Kinchakiang (Yangtze). In spite of the great similarity of *C. clavulus* and *C. spinula*, we believe in the validity of the two species, since they are both found living at the same locality—Changyang.

HELIX, Linn.

Sectio *ARMANDIA*, Ancy.

6. HELIX SARELII, Martens.

Martens, Preuss. Exp. nach Ost-Asien, ii. 1867, p. 44, and Conch. Mitth. Bd. 2, 1885, p. 181, t. xxxiii. figs. 4-6; H. Adams, Proc. Zool. Soc. 1870, p. 377 (*H. nora*); Moellendorff, Jahrb. d. d. Mal. Ges. 1884, p. 327 (*H. Sarelii*) and p. 358 (*H. nora*).

Frequent at Changyang, and Kaochahien, province Hupeh.

Diam. maj.	11,	min.	9.5,	alt.	7.6 mm.
,,	10,	,,	8.5,	,,	7.2 ,,
,,	9.5,	,,	8,	,,	6.2 ,,
,,	9.5,	,,	8,	,,	7.4 ,,

7. HELIX CALYMMA, n.sp. Pl. VIII. Fig. 8.

Testa late perforata, subconoideo-depressa, corneo-olivacea, concolor, tenuis, subopaca; spira brevissima, convexo-conoidea; apex obtusus, submammillatus. Anfr. $3\frac{1}{2}$ convexiusculi, ad suturam tumiduli, celerime crescentes, sutura profunda late impressa disjuncti, regulariter costato-striati, costulis hic illie membranaceis; ultimus peripheria distincte rotundato-angulatus, ad suturam et ad perforationem subangulatus, superne et inferne subplanatus, ad aperturam valde ampliatus, lente descendens, $\frac{3}{4}$ altitudinis testæ æquans. Apertura diagonalis, maxima, angulato-circularis. Peristoma simplex acutum, marginibus valde approximatis, supero arcuato transverso, dextro sub-semicirculari subexpanso, basali valde arcuatim retracto, columellari parum obliquo, non incrassato, superne solum sed late triangulariter reflexo, perforationem semitigente. Diam. maj. 11.5, min. 9 mm.; alt. 6.5 mm; alt. apert. 6.75, lat. apert. 7.75 mm.

Differt a *H. Sarelii*, Marts., testa multo magis depressa, anfr. ultimo distinctius angulato, rudius membranaceo-costato, apertura multo majore, margine columellari brevius triangulariter reflexo.

Only one specimen was found, at Loehaba, on the Yangtze, about half way between Ichang and Chunking.

Whilst *H. Sarelii* in outline and form recalls a large *Vitriina pellucida*, Müll., our species might be compared to *Vitriina diaphana*, Drap. The large aperture, the height of which exceeds the height of the shell, and the sculpture, which consists of membranaceous ribs, are specially characteristic.

H. plicatilis, Desh. (Nouv. Arch. du Mus. VI. p. 20, ix. t. ii. figs. 13-15), is the nearest ally, but is smaller, in spite of having four whorls, and is comparatively higher.

Sectio *EVHADRA*, Pilsbry.

8. *HELIX HEMICLISTA*, n.sp. Pl. IX. Fig. 7.

Testa sat magna, subobtecte umbilicata, tenuiseula, brunnea, epidermide dein olivacea obtecta, unicolor, conoideo-globosa; spira conico-convexa, magis minusve elata; apex acutulus. Anfr. 5-5½ convexiusculi sutura impressa disjuncti, lente accrescentes, regulariter arcuatum striati; ultimus insuper spiraliter obsolete ruguloso-lineolatus, periphæria obsolete angulatus, basi bene rotundatus, ad peristoma superne breviter constrictus, sed non aut vix descendens, circa ¾ altitudinis testæ æquans. Apertura obliqua, intus fuscescens, exciso-circularis; peristoma modice expansum, reflexiusculum, sublabiatum, labio violaceo-brunneo, marginibus remotis, callo tenuissimo junctis, margine supero curvato, dextro et infero regulariter circularibus, columellari sursum attenuato, prope umbilicum lobo magno sphaerico triangulari trans perforationem reflexo, aperturam umbilici fere omnino obtegente. Diam. maj. 28·5-33, min. 24·5-28·5 mm; alt. 18·5-22·5 mm.

Three specimens were obtained by Mr. Bock's expedition of 1891, and one by Mr. Pratt, probably in Lytschouan.

Nearly related to *Helix hamatozona*, Heude (Moll. terr. p. 40, t. xx. fig. 14), from which it differs in having the whorls more convex, the last whorl being more rounded at the periphery, in not being banded, and in the right margin not being angulated.

9. *HELIX RENALTIANA*, Heude.

Heude, Journ. de Conch. 1889, p. 226; Moll. terr. p. 141, t. xxxviii. figs. 10, 10a.

This is another species nearly related to *H. hamatozona*, easily distinguishable, however, by its larger size, different sculpture, and formation of the umbilicus. We are in possession of authenticated specimens of both *H. hamatozona* and *H. renaltiana*.

10. *HELIX PERCUSSA*, Heude.

Heude, Moll. terr. p. 39, t. xvi. fig. 4; Pilsbry, Man. of Conch. vi. p. 111, t. xxiv. figs. 86-88.

We have before us an original specimen from Tchen k'cou, of diam. maj. 28·6, min. 25·2, alt. 17·6 mm., in which part of the narrow

umbilicus is covered by the reflected columellar margin, and the last whorl does not descend in front.

A single specimen of what appears to be a variety of this species was found at Kaochahien, of diam. maj. 26.6, min. 23, alt. 16.5 mm. Another specimen was brought back by Mr. Bock's expedition, in 1891, from an unknown locality, of diam. maj. 29, min. 23.5, alt. 17 mm. Both differ from the original specimen in having a wider umbilicus, not in any way covered by the columellar margin, and the base of the last whorl—which slightly descends in front—being inflated round the umbilicus, whereas in Heude's specimen it is flattened in the umbilical region.

Finally, we received from Father L. Fuchs a few specimens (locality Patung?) agreeing with the above variety; the umbilicus is still larger, however. The largest specimen measures diam. maj. 30.5, min. 26, alt. 18.2 mm. and is elegantly granulated—as, indeed, are all specimens of the variety, more or less. This granulation, mentioned by Heude in his description, is absent in the authenticated specimen, although it is in a perfect state of preservation. The type would therefore appear to vary in this respect.

Subgenus STEGODERA (Martens), Pilsbry.

Sectio *TRAUMATOPHORA*, Ancy.

11. *HELIX TRISCALPTA*, Marts.

Martens, Sitz. Ber. Ges. nat. Fr. Berlin, 1875, p. 2; Heude, Moll. terr. p. 35, t. xv. fig. 7; Pilsbry, Tryon's Man. Conch. Pulmonata, vol. vi. p. 8. t. i. figs. 1-8.

Of this beautiful species only one specimen was found on the Lüshan, near Kiukiang. Diam. maj. 33.5, min. 28.6 mm.; alt. 15 mm.

Sectio *MOELLENDORFFIA*, Ancy.

12 *HELIX ERDMANNI*, n.sp. Pl. IX. Fig. 8.

Testa sat aperte umbilicata, umbilico subtereti, fere $\frac{1}{4}$ latitudinis testæ æquante, discoidea, solida, obscure cinnamomea unicolor; spira plana; apex non prominens. Anfr. vix $4\frac{1}{2}$ plani, sat celeriter accrescentes, sutura profunde impressa disjuncti, minutissime granulati et striis rugulosis, grana majora oblonga ferentibus, in carina in lacinias longas spathuliformes prolongatis ornati, ultimus superne acute carinatus, basi saccatus, gibbus, prope aperturam impressionibus duabus, altera infera brevi, punctiformi, altera supera longa et perprofunda instructus, et circa umbilicium distincte angulatus, antice fere ad basin anfractus penultimi deflexus. Apertura subhorizontalis, fere quinquangulari-circularis, intus concolor; peristoma late expansum, reflexiusculum, fuscule labiatum, marginibus valde convergentibus, callo distincto albo junctis, supero horizontali, subnodato, dextro in faucibus lamella longa instructo, basali valide unidentato. Alt. 6.5-7.5 mm.; diam. min. 15-17.5, diam. maj. 17.2-20 mm.

Easily distinguishable from all its allies in being acutely carinated, by the absolutely flat spire, and by the comparatively gradual increase of the whorls. The apex consists of nearly two whorls, which are more strongly granulated than the rest.

CELOPOMA, A. Ad.

13. CELOPOMA BARCHETI, n.sp. Pl. IX. Fig. 2.

Testa modica, late umbilicata, umbilico $\frac{1}{3}$ latitudinis testæ æquante, subconico-discoidea, solidula, sordide olivaceo-flavescens, opaca; spira parum elata, perdepresse conica; apex acutulus, prominens, niger. Anfr. 5 convexi, regulariter accrescentes, sutura profunde impressa disjuncti, oblique striatuli, ultimus teres, ad aperturam valde descendens, $\frac{2}{3}$ altitudinis testæ æquans. Apertura modice obliqua, nondum diagonalis, subcircularis, sed altior quam lata; peristoma continuum, breviter adnatum ibique paulo protractum, duplex, margine interno recto, leviter protracto obtuso, externo valde expanso et reflexo, albolabiato, ad suturam levissime inciso et subemarginato. Opere. extus conulum modicum, anfr. 5 gradatis exstructum, apicem planatum exhibens. Diam. maj. 9·5–11·5, diam. min. 8–9·6 mm.; alt. 5·3–6·6 mm.; diam. apert. 4·6–5 mm.

Hab.—Snowy valley near Ningpo.

Specimens received from Dr. Barchet of Ningpo, probably from a different locality, are identical, except in size, as the following measurements will show: diam. maj. 10–12·5, diam. min. 8·5–10·5 mm.; alt. 6–7·5 mm.; diam. apert. 5–6 mm. The species also occurs in the Dalanshan, near Ningpo.

Until now only one species of this genus was known from China, viz. *C. Frienianum*, Heude (Moll. terr. p. 95, t. xxix. fig. 2, *Spirostoma*), from Ouyuan, Southern Nganhwei, which, however, differs in being considerably larger (two authenticated specimens from Heude have the following dimensions, viz. diam. maj. 15·8–17·6, diam. min. 13·5–15 mm.; alt. 6·5–7·5 mm.—the larger specimen being the less elevated one; diam. apert. 6–6·4 mm.; $5\frac{1}{2}$ whorls). Heude gives the height in his description as 10 mm., which may be a mistake; he further states the number of whorls to be 4, whilst our specimens show $5\frac{1}{2}$. *C. Frienianum* is, besides, comparatively flatter, has a larger umbilicus, the apex is mammillated, the aperture is placed much more obliquely. The operculum forms a much higher cone, tapering to a finer point, with more numerous, and more gradually increasing whorls. *C. Japonicum*, A. Ad., in which the margin of the aperture is not expanded, is very different from our species. That the creation of the new genus *Spirostoma* was unnecessary, both Moellendorff (Jahrb. 1886, p. 101) and Crosse (Journ. de. Conch. 1885, p. 56) have already shown.